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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,271	06/25/2004	Naokazu Murase	2001JP503	9820

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EXAMINER	
BERNSHTEYN, MICHAEL	
ART UNIT	PAPER NUMBER
1713	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/29/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/500,271	MURASE ET AL.	
	Examiner	Art Unit	
	Michael Bernshteyn	1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 October 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action follows a response filed on October 24, 2006. Claim 12 has been amended; claims 21 and 22 have been added.

2. In view of the amendment the rejection of claim 12 under 35 U.S.C. § 102(b) has been withdrawn.

3. Claims 1-22 are pending.

Claim Rejections - 35 USC § 102

4. The text of this section of Title 35 U.S.C. not included in this action can be found in a prior Office Action.

Claim Rejections - 35 USC § 103

5. The text of this section of Title 35 U.S.C. not included in this action can be found in a prior Office Action.

6. Claims 1-7, 10-11 and 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murase (WO 00/23533) in view of Yoshihara (U.S. Patent 5,719,205), for the rationale recited in the 1st paragraph of Office Action dated on August 17, 2006.

7. Claim 13 is rejected under 35 U.S.C. 102(b) as being anticipated by unpatentable Murase (WO 00/23533), for the rationale recited in the 2nd paragraph of Office Action dated on August 17, 2006.

8. Claims 8, 9 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murase in view of Yoshihara and further in view of Sumita et al. (EP 1 114 734 A1), for the rationale recited in the 3rd paragraph of Office Action dated on August 17, 2006.

9. Claims 12 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murase (WO 00/23533) in view of Yoshihara (U.S. Patent 5,719,205).

The disclosure of Murase and Yoshihara's references resided in § 6 is incorporated herein by reference.

The combined teaching of Murase and Yoshihara does not discloses that the component (C) is present in the synthetic resin emulsion in amounts of from 59 to 68 percent by weight based on the total nonvolatile content of the emulsion.

It is noted that in the absence of showing criticality the amounts of monomers (A), (B) and (C) are result effective variables, and therefore, it is within the skill of those skilled in the art to find the optimum value of a result effective variable, and is, therefore, obvious, as per ***In re Boesch and Slaney*** 205 USPQ 215 (CCPA 1980). See also *Peterson*, 315 F.3d at 1330, 65 USPQ2d at 1382: "The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages."

Discovery of optimum value of a result effective variable in known process is ordinarily within the skill in the art and would have been obvious.

10. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Murase (WO 00/23533) in view of Yoshihara (U.S. Patent 5,719,205) and further in view of Blankenship et al. (U. S. Patent 6,252,004).

Murase discloses that surfactants that can be used as optional components are those ones that can act as emulsifiers in emulsion polymerization. Specific examples of such surfactants include conventional anionic or nonionic surfactants. To impart increased water resistance to the resultant coated paper, it is also possible to use, as the reactive-surfactants, those ones containing in their molecules one or more radically polymerizable unsaturated groups. These surfactants are used for the polymerization in the form of a mixture (col. 5, lines 54-64). As possible emulsifier, **sodium alkylallylsulfosuccinate** was used in all examples 1-8 (col. 7 line 65 through col. 10, Table 1). This emulsifier can be exemplified as emulsifier (A) of claim 1 (see the specification, Production Examples 1, 4, 6 and 8).

Murase does not disclose that the emulsifier includes a styrene sulfonate.

With regard to the limitation of claim 21, Blankenship discloses that examples of suitable anionic emulsifiers include sodium lauryl sulfate, sodium dodecylbenzenesulfonate, potassium stearate, sodium dioctyl sulfosuccinate, sodium dodecyldiphenyloxide disulfonate, nonylphenoxyethylpoly(1)ethoxyethyl sulfate ammonium salt, sodium **styrene sulfonate**, **sodium dodecyl allyl sulfosuccinate**, etc. (col. 6, lines 9-13).

Therefore, all of the above emulsifiers are functional equivalents and can be substituted by each other. Thus, Blankenship recognizes the equivalency of sodium

dodecyl allyl sulfosuccinate used by Murase and styrene sulfonate as an emulsifier for emulsion polymerization. In the instant case the substitution of equivalent emulsifiers requires no express motivation, as long as the prior art recognize equivalency, ***In re Fount***, 213 USPQ 532 (CCPA 1982); ***In re Siebentritt***, 152 USPQ 618 (CCPA 1967); ***Graver Tank & Mfg. Co. Inc. V. Linde Air Products Co.*** 85 USPQ 328 (USSC 1950), and a person skilled in the art would have found obvious to substitute sodium dodecyl allyl sulfosuccinate used by Murase for styrene sulfonate of Blankenship based on their recognized equivalency and with the reasonable expectation of success.

Response to Arguments

11. Applicants traverse the rejection under 35 U.S.C. § 103(a) of claims 1-7, 10-11 and 14-18, as being unpatentable over Murase (WO 00/23533) in view of Yoshihara (U.S. Patent 5,719,205); the rejection under 35 U.S.C. § 102(b) of claims 12 and 13 as being anticipated by Murase (WO 00/23533) and the rejection under 35 U.S.C. § 103(a) of claims 8, 9 and 19-20 as being unpatentable over Murase in view of Yoshihara and further in view of Sumita et al. (EP 1 114 734 A1). Applicant's arguments have been fully considered but they are not persuasive.

12. Applicants contend that there is no suggestion or motivation to make the proposed particle size modification and, in any event, the Yoshihara reference is not analogous art (page 7, 3rd paragraph). First, the Yoshihara reference is directed to an acrylic polymer/metallic emulsion where the metallic compound is condensed within a synthetic resin, and is grown inside the resin. In contrast, the instant invention concerns

a simple mixture or blend of colloidal silica and a synthetic resin emulsion with cyclic monomers, such as styrene. In the present invention, the resin emulsion has small particle size and is stabilized with polymerizable surfactants. Further, the use of radically polymerizable surfactants having sulfonic acid moieties is necessary to achieve the desired particle size of the synthetic resin emulsion. The combination of using small particles with polymerizable surfactants allows ink permeability and acceptable gloss, without blurring or bleeding of the ink (page 8, 3rd paragraph).

Applicants contend that the suggestion to modify the '533 Murase reference as proposed by the Examiner is untenable because Murase is directed to a coating composition for paper (or like ink-jet recording medium) to promote glossiness and other properties desirable in paper coating, while the Yoshihara reference relates to a coating compositions for transparent substrates in order to reduce reflection (pages 8-9, the bridging paragraph).

13. It is noted that an object of Murase's reference is to provide a coating composition with which it is possible to make coated paper that is excellent in various properties such as glossiness, water resistance, solvent resistance, heat resistance, thermal blocking resistance and ink penetration and that can readily be recycled (US'941, abstract). An object of Yoshihara's reference is to provide a coating composition, which can impart to a coating a hard property, flexibility, heat resistance, and flame resistance, a process for producing the same, a method for producing a coating, and the coating (US'205, col. 3, lines 9-13).

Therefore both references are analogous art because they are from the same field of endeavor concerning new coating compositions comprising a synthetic resin emulsion and one skilled in the art when the invention was made has a substatial motivation to combine the above mentioned references.

It is further noted that "The motivation in the prior art to combine references does not have to be identical to that of the applicant to establish obviousness, i.e. it is not required for a finding of obviousness that motivation of the skilled artisan be the same as an applicant motivation", ***In re Kemps***, 97 F.3d 1427, 1430, 40 USPQ2d 1309, 1312 (Fed. Cir. 1996) (holding there is sufficient motivation to combine teachings of prior art to achieve claimed invention where one reference specifically refers to the other).

Therefore, it is well settled that for a finding of obviousness under § 103 the prior art need not disclose the same motivation as disclosed by an applicant.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adjust the particle diameter of the synthetic resin particles in the claimed range as taught by Yoshihara in Murase's synthetic resin emulsion for coating composition because it does not adversely affect the light transmission from the viewpoint of the visual acuity of the human being and also because, when an inorganic component is grown within the synthetic resin particles, the inorganic component is not grown to an excessive size (US'205, col. 7, lines 4-13), and thus to arrive at the subject matter of instant claim 1 and dependable claims 5, 10, 14 and 15.

14. In response to applicant's argument that Yoshihara's reference is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992).

15. Applicants contend that because Yoshihara teaches a coating composition with reduced gloss, the artisan has no motivation to use the coating composition discloses in Yoshihara for preparing the ink-jet recording medium disclosed in Sumita (page 12, 3rd paragraph).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Sumita discloses an ink jet recording sheet, which comprises being constructed by a composition containing a (meth)acrylic based copolymer having a hydrolysable silyl group in which a polymerizable unsaturated monomer having a hydrolysable silyl group is copolymerized with monomers containing a (meth)acrylate-based polymerizable unsaturated monomer, and inorganic compound fine particles.

All references are analogous art because they are from the same field of endeavor concerning new resin coating compositions for ink jet recording medium.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the combined Murase and Yoshihara's coating composition in Sumita's ink jet recording medium because this coating composition shows stable physical properties and excellent handling properties (US'941, col. 7, lines 40-42), and thus to arrive at the subject matter of instant claims 8, 9, 19 and 20.

16. Applicants contend that the art of record does not recognize that the amount of monomers, particularly cyclic group-containing monomers, is a result-effective variable, and indeed appears to only mention cyclic moiety monomers as an optional component to be used, if at all, in minor amounts. See, e.g., Murase at col. 5, lines 16-20; see, also, Examples 1-8, where it is seen that monomers with cyclic groups are used in amounts of, at most, 20 percent. Accordingly, without some teaching in the art that the amount of cyclic monomers, surfactant, and silyl groups can be merely optimized to provide for the advantages of the invention, dismissing these elements as result-effective variables is improper (pages 6-7, the bridging paragraph).

17. It is noted that should be repeated again that the amount of the weight ratio of the components A, B and C is a result effective variable, and therefore, it is within the skill of those skilled in the art to find the optimum value of a result effective variable, as per ***In re Boesch and Slaney*** 205 USPQ 215 (CCPA 1980). See also *Peterson*, 315 F.3d at 1330, 65 USPQ2d at 1382: "The normal desire of scientists or artisans to

improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages."

18. It is worth to mention that Examiner has cited particular columns and line numbers or figures in the references as applied to the claims for the convenience of the applicant. Although the specified citations are representative of the teaching in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant, in preparing the responses, **to fully consider the references in entirety as potentially teaching all or part of the claimed invention**, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

19. In the light of the discussion above, the rejection of record has not been withdrawn. The rejection remains in force.

20. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Bernshteyn whose telephone number is 571-272-2411. The examiner can normally be reached on M-F 8-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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